How Good is Your Swarming Knowledge?

Swarming is the natural program of honeybees for two purposes: to increase the population of honeybees over the world, and for bees to spread out away from home to new territory. Some humans have rendered a truly anthropomorphic reason: two "queen mothers" can't confortably live in the same house. A main goal of 20th century bee scientists and professional apiculturists was to determine the primary reasons for swarming and formulate colony management techniques to either prevent or diminish the tendency of bees to swarm. Prior to this century, the lack of sound knowledge about swarming often made it necessary to keep 3 or 4 colonies in order to produce 100 pounds of honey each year; but there were some skilled beekeepers who could constantly produce over 100 pounds of honey per colony every year and almost in any part of the country.

Changing the established procedures of the times and scientifically researching many possible reasons for swarming as well as the management techniques to prevent or retard swarming, much helpful knowledge has been made during the past 50 years to control swarming in order to help a colony of bees to produce 100 pounds, or more, of honey each year. The following points have been firmly established:

a.) There is a definite SWARM SEASON for all apis mellifera ; which is generally defined as that period in the spring when brood rearing is at its peak; and in most areas, that is the 4-6 week period just ahead of a major nectar flow.

b.) Some races of Apis have a higher propensity to swarm than other races. The same can be said regarding the different stocks (strains) of a race. This is not a problem for a skilled beekeeper, but can be a major problem for an uninformed apiarist.

c.) The Number One reason for swarming is over crowding or congestion in the BROOD CHAMBER. This has nothing to do with the supers, which is a totally different problem!

d.) The Number Two reason for swarming is the age of the Queen. In addition to her task of laying eggs, it is her job to produce and spread the queen pheromone (queen substance, also called 'queen odor') which acts as a "glue" to seal all of her 50-60,000 progeny together as one single functioning unit. Research has clearly proven that the production of this queen pheromone DIMINISHES every day from her mating day, and the older she becomes results in the lesser bees she can control. Bees rarely swarm when headed by a queen less than a year old.

e.) It is not natural for bees to swarm during a nectar flow, because they would leave the very thing they are trying to collect to provide for colony survival in the coming winter. However, there must be enough super space to store this thin watery nectar until the bees can evaporate its water content and ripen it into thick honey. If adequate super space is not available and since idleness or loafing are unknown in the genetic make-up of the honeybee, they swarm during a nectar flow. This is totally 100% BEEKEEPER'S FAULT.

f.) Many beekeepers have concluded that swarming is a "sudden happening", or that there were few warning signs to the beekeeper, and swarming is just one of those unfortunate problems of beekeeping. None of these statements have any meaning or truth in them. When the BROOD CHAMBER becomes congested with too much brood, too many nurse bees, not enough laying space for the queen, no space cell space for pollen or nectar, and the foraging bees "fighting their way through crowd" to get to and from the front entrance, the bees

initiate their swarming program. For a period of perhaps 7-12 days in advance of the swarm issue, bees have to build swarm cells, produce lots of royal jelly to feed the larvae, reduce or even stop the queen from laying eggs so she reduce weight in order to fly with the swarm, send out scouts looking for a new home, and gorge themselves with honey to carry along to their new home. Hence, they partially give up foraging in the field and just sit around the hive waiting for the "signal" to swarm. This is the swarming program in SWARM SEASON before a main nectar flow.

When a nectar flow comes about, bees give up all thoughts of swarming and concentrate on nectar collecting. If the beekeeper has not provided enough super space, the bees try to make storage space by building burr comb in every nook and crany, and finally stop the queen from laying eggs by filling empty brood cells with nectar, and they build queen cells and all the rest of the program mentioned above and swarm because the beekeeper was too lazy or not smart enough to provide adequate super space at the right time, WHICH WAS AT LEAST 7-10 DAYS BEFORE THE SWARM.

Some readers will surely say: "George is crazy, out of his mind about swarming and swarm control". If that is so, then most commercial migratory beekeepers who have 5000 colonies or 25,000 colonies moving bees all over the U. S., and the pollinators who move 1000 colonies to New Jersey one week, move them two weeks later to New York, three weeks later move them up to Maine and then back to Florida to make a crop of orange blossom honey must all be CRAZY too. BeeKEEPING is their total income and they can't make mistakes by allowing swarming. Some of them even requeen a colony twice each year to make sure that the queen is very young to she can lay lots of eggs and produce lots of queen pheromone to retard swarming. Almost all of them buy queens from a highly skilled queen breeder and requeen in the fall so they don't "mess up" the spring honey flow or pollination contract. If you attend the meetings of the American Beekeeping Federation, you can talk to these people yourself like I do and find out how knowledgeable they are!

This is already March, so you can't do everything this year, but you can sure plan for the years after this one. Here are the things you should do:

1.) Prevent BROOD CHAMBER CONGESTION by REVERSING THE BROOD CHAMBERS as needed during February, March, and April. See my PINK PAGES about REVERSING, or consult most recently written books about beekeeping. You should either use 2 deep hive bodies or 3 Medium Illinois hive bodies for your BROOD CHAMBER SPACE.
2.) Supers are no good in your garage or in your basement. Bees may need additional space in the BROOD chamber, so put at least one super in place in early April so that the bees can move nectar or honey up to that super out of the brood chamber if they need space. Put 5 Illinois supers of drawn comb on each colony about April 15th. Do not use foundation. If you do not have drawn comb, see my old PINK PAGES of how to get foundation made into drawn comb. Remember my saying: Drawn Comb is a beekeeper's most valuable possession!. There are lots of GOOD reasons to put all supers on a colony at one time, mostly to prevent swarming by providing adequate storage space for thin nectar. Ask other MASTER BEEKEEPERS or see my PINK PAGES.

3.) Plan on requeening every year and see my PINK PAGES about Almost 100% Foolproof Requeening in September, and contact your queen supplier and order by July.
4.) Read, read, read, but especially read Diana Sammantaro's 1998 3rd Edition, The Beekeeper's Handbook, primarily aimed at beginners and intermediate beekeepers. It is maybe the BEST book for beginner's ever written. You are silly if you do not have a DESK COPY of The Hive and Honey Bee, Revised 1992 Edition, for your advanced studies with 1300 pages written by 34 of the greatest beekeepers and bee scientists in the U. S. Many call it the beekeeper's bible. I think Dr. Norm Gary's Chapter 8 about BEE BEHAVIOR is one of the world's greatest writings, and Chapter 9 about Pheromones is the target for 21st century understanding more about bees.

PLEASE NOTE MY FOLLOWING THOUGHTS:
The mites were not found in the U. S. until 1984 and 1987, the Africanized bees did not enter the U. S. until October 1990, and the tremendous importance of pheromones was just broached in recent years. Hence, BOOKS WRITTEN BEFORE ABOUT 1992 ARE NOT OF MUCH VALUE TO YOU BECAUSE THEY DON'T DEAL WITH THE PROBLEMS OF MITES, AFRICANIZED BEES, and PHEROMONES. Therefore, in spite of the fame of some particular book, don't read about how to improve the speed and endurance of a Nash Rambler automobile or correct the steering problems of Ralph Nader's Chevrolet Corvair, when you might be driving a fuel injected Ford Mustang or a Cadillac Northstar in 1999. Buy a book that is written by a bee researcher, professional apiculturist, or bee scientist that features the necessary new management techniques needed in 1999 beekeeping.

Some Swarming Truths and Falsities

1.) For many years, beekeepers practiced removing all swarm cells about once each week to prohibit swarming. Although that program might delay swarming, usually the swarm issues and leave a QUEENLESS colony behind. Further, most often the beekeeper overlooked one queen cell when doing his removal procedure and the bees swarmed right on schedule. REMOVING QUEEN CELLS DOES NOT STOP SWARMING!

2.) Many beekeepers clip a queen's wings so she cannot fly and believe this procedure is a swarm control technique. When the bees find the queen is not part of the swarm, they return to the hive with the idea of trying again tomorrow. This action may happen for a day or so, but usually a new virgin queen emerges and the swarm leaves the old homestead headed by a new virgin queen. CLIPPING THE QUEEN'S WINGS DOES NOT STOP SWARMING!

3.) Not unlike the addiction of some humans to alcohol or drugs, after the bees set their program on the urge to swarm and perform many of their necessary PRE-swarm steps, it is is extremely difficult to stop this colony of bees from swarming unless drastic measures are used. These measures might include dividing the colony into two parts, removing the queen, removing all brood, and other labor intensive tasks, and even then, they may not work. If you observe queen larvae floating in royal jelly in a queen cell, the swarm program is well established, and stopping swarming will be difficult. Further, if you see CAPPED queen cells, you can forget any prevention technique, because that colony will swarm within 24 hours unless the weather is bad. One might say that "Bees have a one-track mind", and if they have made swarm preparations, it is very difficult to re-orient their thinking to some mundane task like nectar collecting.

4.) Although not often seen here in Maryland, bees may swarm in the summer or even the fall due to certain unusual circumstances. In total desperation, bees may have a "hunger swarm" in the summer if their colony stores are down to zero, caused by either the beekeeper removing too much honey or a very bad, long dearth of nectar. Further, every now and then, a fall nectar flow in September that is intense and long lasting might cause a fall swarm. Although there are swarms that occur at times other than springtime, if you have sufficient knowledge and skill to prevent or control normal spring swarming, you do not have to concern yourself with these unusual out-the-ordinary happenings.

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